Town of Orangeville

specifications
for
plow equipment
and
dump body

2021

Instructions to bidders

The Town of Orangeville reserves the right to accept or reject any or all bids in the best interest of the Town.

References to trade names are to set standards and not to limit bids. Bidder my offer alternatives with the highway superintendents approval prior to the bid.

Make and model of each component must be stated with bids.

There shall be a one year warranty [unless other wise stated] on material and workmanship from first day of use.

The highway superintendent reserves the right to approve as an equal, or to reject as not being equal, any article the bidder proposes to furnish which contains major or minor variations from the specifications.

Literature and specifications must be enclosed with bid.

Any exceptions or deviations from these specifications must be stated in writing with bids.

Equipment being offered must be of the manufactures standard model and there must be units in the area for comparison.

Non-collusive bidders certificate

Pursuant to chapter 675, law of 1966

[A] by submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of joint bid each party there to certifies as to its own organization, under penalty of perjury, that to the best of knowledge and belief:

1] The prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor.

2] Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and with not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and

3] No attempt has been made or will be made by the bidder to include any other person, partnership or corporation to submit or not submit a bid for the purpose of restricting competition.

Name of Bidder:_____

Signature of Bidder:_____

Date:_____

Oneway Plow

	Yes	No
The oneway plow shall be designed to be heavy duty and shall be of a high speed design.	_____	_____
It shall have a clearing path of 9' with a 11'3" cutting edge length including the nose shoe.	_____	_____
The carbide cutting edge shall be 132" X 6" X 3/4" and shall be replaceable.	_____	_____
The plow shall have a nose height of 32" and a discharge height of 62".	_____	_____
The moldboard shall be manufactured with a 2" X 2" X 1/4" angle leader welded to the 5 - 3/8" ribs and the steel nose plate.	_____	_____
The bottom cutting edge backer shall be 4" X 6" X 5/8" angle with gussets.	_____	_____
This angle shall be punched to allow the use of both 8" and 3"-3"-12" punched cutting edges.	_____	_____
There shall be a 3" X 3" angle mid way of the ribs from the discharge end to the nose end.	_____	_____
The moldboard shall be roll formed of 10 ga steel with air circulation cut outs.	_____	_____
The mold board insert shall be of a high density tenelene with a minimum thickness of .300".	_____	_____
The moldboard shall pin to the push frame with 3 "U" shaped connectors.	_____	_____
Two of the connectors shall have a heavy duty coil spring to allow the moldboard to trip and assist in absorbing road shock.	_____	_____
The push frame shall have a 4" X 6" X 5/8" plated angle front with Two 4" X 4" X 3/8" tubular steel push arms and there shall be three diagonal braces with in the push arms.	_____	_____
There shall be a safety chain to prevent the moldboard from		

tipping over when adjuster pin is removed. _____ _____

The plow shall have two adjustable carbide push frame shoes and two moldboard shoes. _____ _____

The plow shall be manufactured to accept carbide edges and adjust to 55 degrees to 60 degrees attack angle. _____ _____

The entire steel structure shall be sand blasted be fore the primer and orange paint is applied. _____ _____

There shall be a full width rubber snow deflecter. _____ _____

There shall be an orange plow marker. _____ _____

There will be a LED marker light mount on the drivers side front corner of the plow. _____ _____

The plow will have special gussets specified by the highway superintendent. _____ _____

Plow Quick Coupler

Yes No

There shall be a set of quick coupler that pin to the front hitch. _____ _____

The quick coupler shall be a spring loaded jaw type that shall automatically lock on to the plow push bumper. _____ _____

There shall be a safety pin that when manually lock the jaw in the open or closed position. _____ _____

The plow push bumper shall have a reinforced full round rod for the male end of the quick coupler. _____ _____

There shall be steel guides to help line up the male and female sections of the quick couplers. _____ _____

Side Wing

Yes No

The wing shall be designed for the right side of the truck and shall be heavy duty. _____ _____

It shall have a over all length of 156" and shall have a 144" x 6" x 3/4" carbide cutting edge. _____ _____

The nose height shall be 32" and the discharge height shall

_____ _____

be 40 1/2".

The cutting edge backer shall be 4" X 6" X 5/8" with gussets and shall be punched to accept 8" or 3"-3"-12" punch cutting edge.

Welded to this backer shall be a minimum of 5 - 3/8" ribs.

The leader shall be a minimum of 1" plate steel and shall have two holes to accept a 1 1/4" wing bolt.

The top of the ribs shall be welded to a 3" X 3" X 3/8" angle running the full length of the top of the wing.

The wing skin shall be of high density tenelene with a minimum thickness of .300". _____ _____

There shall be several places longitudinally at the back of the wing to allow the push arms to be attached at proper angles. _____ _____

The steel on the wing shall be sand blasted before the primer and the back of the wing shall be painted orange. _____ _____

Trip Wing Hinge

Yes No

The wing shall be attached to the front wing post with a trip hinge. _____ _____

The hinge shall be designed to allow the wing to trip and reset automatically when hitting an obstruction. _____ _____

The reset shall be with a rubber compression not with coil spring. _____ _____

The hinge shall have two offset hinges to lift the wing as it trips. _____ _____

Wing Stand Off Arms

Yes No

The push arms for the wing shall be heavy duty. _____ _____

The top arm shall have a full length solid shaft of 2 1/4" diameter. _____ _____

There shall be a steel casting to attach the top arm to a

solid rod at the wing.

This is to allow the wing to float with the contour of the road.

The float shall be a minimum of 14".

The outer tube shall be 3 2" with a minimum of 5/16" wall.

The bottom push arm shall have a coil spring to help absorb the road shock from the wing.

The tilt cylinder shall attach to the top arm and the three point attachment on the rear slide.

For strength and safety the knuckles at the truck end and the attachment at the floating adaptor must be of cast steel and not a manufactured piece.

This cylinder shall have a stroke of 17" and shall be double acting.

It shall have O-ring seals.

FRONT HITCH

	Yes	No
The front hitch shall be manufactured so as to keep the plow attachment point as close to the front of the truck as possible.		
There shall be 5/8" side plates mounted as far back on the truck frame as possible.		
At the front of these plates there shall be a 5/8" steel drop plate to serve as the truck portion of the tilt front hitch.		
Pinned each side of this 5/8" plate shall be 2 1/2" 2 1/2" x ½" angles to serve as the hitch portion of the tilt hitch.		
Welded to these angles shall be two 3" x 5" x 3/8" structural tubes extending from the left side of the vertical angles to the wing post.		

Welded to the front of these tubes shall be the upright angles for the plow lift support and at the bottom there shall be three pinning heights for the front plow. _____ _____

There shall be a top horizontal angle to serve as the support for the plow lift hinge. _____ _____

These angles shall be a minimum of 3" x 4" x 3/8" steel. _____ _____

The plow lift hinge shall be flame cut from 3/4" steel plate and shall have a full plate gusset at the top. _____ _____

The plow lift cylinder shall be 4" x 12" double acting and shall have o-ring seals. _____ _____

The pins to attach the plow to the hitch shall be a minimum of 1 1/4" diameter. _____ _____

There shall be a 10 gauge break formed bumper extension left side. _____ _____

There shall be a lift hook to balance the hitch. _____ _____

The bumper shell be remounted. _____ _____

FRONT POST

Yes No

The front wing post shall be a 6" I-beam with a Theo weight of 17.5#/ft. _____ _____

This beam shall be welded to the two cross tubes of the front hitch and have an additional angle brace at the top. _____ _____

There shall be a sliding plate of 3/4" steel. _____ _____

There shall be provisions for a minimum of 8" of float for the front of the wing. _____ _____

The 3" x 60" double acting wing lift cylinder shall be mounted behind the I-beam. _____ _____

The cylinder shall have o-ring seals and wipers. _____ _____

This double acting cylinder shall lift the front of the wing a minimum 60". _____ _____

There shall be a 1 1/4" x 12" wing slide to wing hinge pin

and a 1 1/4' wing hinge to wing bolt. _____ _____

Rear Wing Tower

Yes No

The rear wing truck attachment shall be a 8" I-beam of 23#/ft. _____ _____

Welded to this beam shall be a minimum of 72" long 3/8" half moon steel for added support. _____ _____

There shall be a sliding plate to lift the wing arms for shelving. _____ _____

This sliding plate shall have a three point attachment for the top and bottom push arms with the third attachment for the tilt cylinder to be offset to the rear to allow the wing to tuck tight to the truck when in the carry position. _____ _____

The three point attachment shall be removable by pulling (1) one pin. _____ _____

The sliding plate shall have a 3" X 60" double acting cylinder to insure high shelving. _____ _____

The cylinder shall be located behind the rear post for protection from damage. _____ _____

The attachment to the truck shall be a 3/4" X 5" plate steel across the top of the truck frame as close to the cab as possible. _____ _____

This plate shall have gussets at the high stress points. _____ _____

Welded at this point shall be a 4" X 6" X 3/8" angle which shall run parallel to the truck frame and bolt tight to the same. _____ _____

Welded to this angle shall be a minimum of three channel and angle braces for the rear post. _____ _____

The attachment shall be designed to allow for adjustment of angle as well as height at time of installation to assure proper operation. _____ _____

There shall be a valve enclosure box with cover bolted to this rear attachment. _____ _____

DUMP BODY

Yes No

The body shall Be a traditional dump as well as a material spreader in one shall. _____ _____

It shall be 14' X 88" inside dimensions. _____ _____

The side shall have a capacity of 12 yards and the tailgate shall be 15.5 yards. _____ _____

The floor, sides and tailgate shall be of 1/4" quench and tempered 210,000 PSI steel. _____ _____

There shall be a 1/2 cab shield mounted integrally with the headboard. _____ _____

The top rails of the body shall be a minimum 4" X 3" structural tubing. _____ _____

There shall be provisions for side boards at the top of the top rails. _____ _____

The front and middle side post shall be 5" with a 7" full depth rear corner post. _____ _____

There shall be two horizontal post 3/16" thick and four vertical posts 3/16" thick. _____ _____

The curb side rear post shall be tied to the front post with a structural tubing located near the top of the posts. _____ _____

There shall be a ladder mounted road side at the front of the body. _____ _____

The tailgate shall be a 6 panel design and shall be double acting. _____ _____

The tailgate shall be level with the floor when horizontal. _____ _____

There shall be an air tailgate locking system. _____ _____

The air tailgate controls shall be installed within reach of the operator. _____ _____

Spreader chains shall be provided. _____ _____

There shall be a body up safety prop for servicing the body. _____ _____

There shall be mud flaps both front and rear of the wheels. _____ _____

The front flaps shall have anti-sail brackets.	_____	_____
The understructure shall have a 10" I-beam 25.4 # / ft.	_____	_____
Longmembers or greater.(**NO CHANNEL)**		
There shall be a conveyor assembly road side.	_____	_____
This conveyor shall move the material forward to the spinner frame mounted behind the drivers door.	_____	_____
The material conveyor shall run road side of the body and shall be 18" wide.	_____	_____
The chain shall be pintle type and shall have 3/8" X 1 1/4" bar flights.	_____	_____
The chain shall have a breakformed cover and not be exposed to the load material.	_____	_____
The drive shall have a bronze gears and shall have a 25:1 ratio.	_____	_____
The conveyor gear box shall be cast iron.	_____	_____
This cast iron drive box shall be driven with a hydraulic motor of ample size.	_____	_____
The torque capacity shall be 13740 pds/inch at 100 RPM's.	_____	_____
The body shall be constructed to allow the gear box, bearings, drive shaft and sprockets to be removed in one piece.	_____	_____
Material shall flow forward through an adjustable door with hand crank jack for adjustment.	_____	_____
Door opening shall be a minimum of 182 cu./ins.	_____	_____
There shall be a built-in 2 section hinged cover plate for the conveyor.	_____	_____
The chain adjustment shall be accomplished with grease cylinders , not screw type adjuster.	_____	_____
The grease cylinders shall be nitrated and have grease fitting to 600 PSI.	_____	_____
There shall be a trap door at the rear of the body to allow the entire rear chain idler assembly to be removable.	_____	_____

There shall be a truck frame mounted spinner with the hydraulic motor mounted at the top of the drive shaft and a polyurethane spinner disc to spread the material. _____ _____

The spinner shall have hydraulic quick couplers for ease of removal. _____ _____

The material shall be feed to the spinner with a plastic tenelene or equal material chute. _____ _____

There shall be 5 - 3" structural channel crossmembers at the cylinder attachment points and a series of 2 15/16" X 3/16" breakformed crossmembers making a honeycomb design for floor supports. _____ _____

The longmembers shall be tied at the top with 3" X 3" structural tubing and at the bottom with breakformed plate for added strength. _____ _____

The floor and curbside of the body shall be designed to lift and move material to the road side conveyor. _____ _____

The floor and hinge shall be bolted to the body's longmember, welded hinges are not acceptable. _____ _____

The four hinge blocks shall be held by 4" X 5/8" grade 5 bolts. _____ _____

The floor hinge shall be a minimum of 1 3/4" hard chrome induction rod with cast steel blocks. _____ _____

These hinges shall be bolted directly to the 10" I-beam longmember. _____ _____

The entire floor and curb side shall be removable with bolts. _____ _____

There shall be grease fittings on each block. _____ _____

The remaining stationary outside longmember shall be 3" X 4" structural tubing. _____ _____

There shall be two 3 1/2" X 22 1/2" double acting cylinders to

lift the floor.

The combined lifting capacity of the floor cylinders shall be 19 tons at 2000 PSI.

These cylinders shall be factory plumbed to the rear of the body with steel pipe.

For safety and strength, these cylinders shall attach to the outside of the longmember with cast steel attachments not a fabricated piece .

The cylinder rods shall be manufactured using the NYDRAUNITE method to minimize wear and corrosion.

The cylinders shall have a full two year warranty from it's original manufacture.

The floor in the full lift position shall be at approximately 40 degrees.

The body lift hoist shall be telescopic three stage.

The barrels of each stage shall be manufactured using NYDRAUNITE method to minimize wear and corrosion.

The cylinders shall have a full two year warranty from it's original manufacture.

It shall have a capacity of 30 tons.

It shall be saddle mounted to the truck frame.

There shall be a shovel holder and an inside step.

There shall be folding ladder and three coal door center.

At the rear of the body there shall be a 12" bolt-on spreader plate.

There shall be stop, turn, tail, back-ups and amber LED lights in the rear corner posts.

There shall be a set of amber LED light mounted in the sides of the rear posts.

There shall be a set of LED plow light of the highway

superintendent specifications mount on the roof bar.	_____	_____
There shall be 2 LED mini bar lights mounted on the bar.	_____	_____
There shall be 2 amber fog lights mounted on the bar.	_____	_____
There shall be a 25 ton pintle hook mounted on a 3/4 " plate with air glad hands, safety D-rings and a trailer plug if provided by the truck dealer.	_____	_____
There shall be grease lines that run from the floor hinge to a central block on the passenger side of the truck.	_____	_____
The lines shall be made of ¼ hydraulic hose with crimp on hose ends.	_____	_____
There shall be red/white DOT tape to the superintendent Specifications.	_____	_____
There shall be a toolbox sized to fit the truck.	_____	_____
There shall be a backup camera system with the camera mounted In a protective box.	_____	_____
There shall be a set of full poly fender mounted over the rear tandems.	_____	_____
Tarp System	**Yes**	**No**
The tarp system will be an aluminum Roll-Rite or equal.	_____	_____
The tarp system will be fully automatic and be mounted to the head board.	_____	_____
The tarp system shall have a bar that pulls and holds the tarp to the rear and a bar that holds down the front of the tarp.	_____	_____
The tarp system shall have three tension springs on both sides.	_____	_____
There shall be 6 Ga. Wire to operate the system.	_____	_____
There shall be an asphalt tarp with the system.	_____	_____
The system shall be installed and operational when delivered.	_____	_____
PUMP	**Yes**	**No**
The hydraulic pump will driven using a supplied Chelsea 890 PTO .	_____	_____

The piston pump (load sensing type) must be capable of 49 GPM's and 3000 PSI at 2500 RPM's and have side ports to avoid multiple 90 degree bends in the suction line; rear ports are not acceptable. _____ _____

Case drain must be directed back of tank without passing through a filter. _____ _____

The pump must have internal bleed-down compensator. _____ _____

The pump shall be a Rexroth model. _____ _____

There shall be a low oil shut down to de-stroke the pump. _____ _____

VALVES

Yes No

The hydraulic valve must be capable of a nominal 30 GPM's, with published flow curves to 40 GPM's, Valve must be pressure compensated, load sensing type with individual flow compensators on each section. _____ _____

Changing a section from single to double acting is done by replacing a shuttle cartridge. _____ _____

The valve shall be actuated with air slave cylinders attached directly to the valve. _____ _____

These cylinders shall be feed with plastic air lines and cab mounted actuators. _____ _____

The actuators shall be of a type allowing the hydraulics to be feathered for precise operation. _____ _____

The air cylinder piston shall have a minimum of a 4/10" piston (Commercial no exception). _____ _____

The controls for the dump body shall have a built in lock out to prevent accidental actuation. _____ _____

There shell be dual controls for the front plow operation. _____ _____

All controls shall be mounted to the highway superintendents specifications. _____ _____

There shall be a swinging pedestal to allow the passenger or

driver access to the controls. _____ _____

COMPU- SPREAD 520 SPREADER CONTROL GROUND SPEED SANDER CONTROL; Yes No

The spreader control system shall be ground speed orientated to maintain a pre-determined application rate regardless of vehicle speed. _____ _____

Control shall be by microprocessor for high control accuracy, automatic calibration and flexibility of programming. _____ _____

Controls for spinner and auger shall be of the rotary knob design. _____ _____

Each knob shall be a selector type with 10 detented positions 0-9, rheostat design switches are unacceptable. _____ _____

For extremely high accuracy, control shall operate ground speed orientated-closed loop. _____ _____

System must also be capable of operating ground speed orientated-open loop and manually. _____ _____

In the event of a feedback sensor fails system must automatically switch over to manual operation. _____ _____

Operation mode selection is obtained by supervisors and mechanics only via lock-out key, not at the discretion of the drivers (no exceptions). _____ _____

The digital display is required to enable the operator to monitor either the real application rate in lbs./mile or ground speed in M.P.H. _____ _____

This display must also enunciate error messages when the microprocessor's self diagnostic system detects any loss of control of accuracy. _____ _____

BLAST FEATURES:

A push on-push off type switch. Blast amount is programmable from 0-100 percent of hydraulic capacity. _____ _____

A separate and clearly defined audible warning beeper shall sound when blast button is in the "on" position. _____ _____

DATA- LOGGING;

Type of information system must record must be time, distance average truck speed and distance in blast for each application rate in each of the 4 different materials. _____ _____

Summation is unacceptable. _____ _____

System must have INFRA- RED data link to allow for calibration and data logging information. _____ _____

CABLE ASSEMBLIES;

All electrical cables supplied must come complete with attached watertight "quick disconnect" connectors, shielded, heavy duty industrial and anti-scuff and sheathing. _____ _____

Wire joints must be soldered and heat shrink tubing used in all appropriate locations. _____ _____

The following lengths of cable will be required:

A) from spreader control to main power - 18 GA, approx.10ft. _____ _____

B) from spreader control to speedometer- 18 GA, approx.10ft. _____ _____

C) from spreader control to valve assembly and feedback sensor-18 GA, approx. 25 ft. _____ _____

HYDRAULIC VALVES;

Spreader hydraulic system valving shall be of mobile design to withstand exposure to de-icing chemicals and severe weather conditions without the use of a watertight enclosure. _____ _____

It shall be of cast iron construction-horizontally stackable and serviceable without disassembly. _____ _____

Each section must have built-in flow and pressure compensator to allow simultaneous operation regardless of any other system function. _____ _____

Both spinner/ auger sections are to be pilot operated and have manual overrides. _____ _____

FILTER

Yes No

The filter will be return line type 10-micron with 1 1/4 A NPT ports mounted into the reservoir. _____ _____

BY-pass and condition gauge are necessary. _____ _____

There shall also be a screen in the reservoir. _____ _____

QUICK COUPLERS

Yes No

All the quick couplers shall be of the thread together type. _____ _____

Reservoir

Yes No

There shall be a rear tower mounted hydraulic reservoir with a capacity of 40 gallons. _____ _____

It shall be built of 10 gauge steel and have internal baffles. _____ _____

The reservoir shall have a sight level gauge, return line filter and chromed breather cap. _____ _____

All oil shall be pre filtered to 20 microns before filling the reservoir and system. _____ _____

Hoses and Fittings

Yes No

All hydraulic hoses and fittings shall be JIC with O-ring boss thread adaptors. _____ _____

They shall be placed so as not to be damaged from rubbing or heat. _____ _____

The hose shall be a tough cover style. _____ _____

Paint

Yes No

The dump body paint will be done as follows:

From bare steel that has been sandblasted a coat of powder primer shall be applied. _____ _____

This primer shall be covered with 2 coats of powder color. _____ _____

Installation

	Yes	No
The equipment shall be neatly mounted on the truck furnished.	_____	_____
Installation shall include all hoses, fittings and other appurtenance required to have a complete and ready unit.	_____	_____
There shall be LED plow lights top of plow frame, body lights, wing lights, and mud flaps mounted with the system.	_____	_____
There shall be a mud flap mounted under the frame of the truck.	_____	_____
All steel shall be sandblasted before primer and paint is applied.	_____	_____
Paint will be one color per highway superintendents requirements.	_____	_____
Are costumers trucks covered under your insurance policy while on your premises.	_____	_____
If so is it primary coverage.	_____	_____
All equipment shall be installed by the original equipment manufacturer.	_____	_____
The manufacturer of the equipment shall have a ISO 9001-2000 rating or better.	_____	_____
Are you registered with the National Highway Traffic Safety Administration as a final stage manufacturer of motor vehicles (Letter of certification may be requested).	_____	_____

BID SUBMISSION	PRICE
Plow Truck Attachments, Dump Body & Hydraulics	_____

OPTIONS:

One-Way Plow and Wing _____